

ARNOLD ARBORETUM

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The Pinetum. The abundant rains of the past season have been a great benefit to the conifers in the Arboretum and many of these plants are now in an unusually good condition in spite of the severity of several recent winters. It is the province of the Arboretum to teach as far as it is possible to do so the value of all trees in this climate and to show those which fail as well as those which succeed, a duty which sometimes interferes with the beauty of the Arboretum as a garden. It has been shown by the Arboretum, for example, that the Balsam Fir, of the northeastern United States (*Abies balsamea*) and its near relatives, the Fir of the southern Appalachian Mountains (*A. Fraseri*), the Fir from the northern Rocky Mountain region (*A. lasiocarpa*), and the species of central Siberia, *A. sibirica*, can live here but soon become unsightly, and they are not worth growing in this climate for ornament or as timber trees. It has been shown here, too, that eastern Massachusetts is not cold enough for the White Spruce of the north, *Picea canadensis*. This beautiful tree grows here rapidly until it is about twenty-five years old and then, save in exceptional situations, it begins to become thin and soon loses its beauty.

Pacific Coast Conifers. Of the conifers of the Pacific coast region of North America the White Pine, *Pinus monticola*, is the most successful. It is hardy, grows rapidly and, although not more beautiful or as valuable as the native White Pine, *Pinus Strobus*, it is a tree well worth attention in New England. The Sugar Pine, *Pinus Lambertiana*, which on the California Sierra Nevada becomes the largest of all Pine trees, is perfectly hardy here and is in good condition although it grows slowly. The White Fir of the California Sierras,

Abies concolor, lives here in good condition for many years but is a less valuable tree in this climate than the plants of the same species derived from Colorado. *Abies nobilis* can live here in sheltered positions but does not become a tree, although the beautiful *Abies amabilis* which grows with it on the mountains of Oregon and Washington does better but grows slowly and has now been in good condition in the Arboretum for several years. Another tree which is rarely seen in northern collections, *Libocedrus decurrens*, the Incense Cedar of California, is in good condition in the small collection of exotic conifers near the top of Hemlock Hill in an exceedingly sheltered position. The Incense Cedar is a tree of narrow columnar habit with bright green foliage, and in California sometimes grows to the height of one hundred and fifty feet and forms a massive trunk. There are good specimens in the District of Columbia and it may well be more generally planted in the middle and southern states. The two beautiful White Cedars of the northwest coast, *Chamaecyparis Lawsoniana* and *C. nootkatensis*, can just be kept alive in the Arboretum where they drag out a miserable existence. Jeffrey's Pine, *Pinus ponderosa*, var. *Jeffreyi*, lives but that is all that can be said of it. None of the other coast conifers of western North America are hardy here, but fortunately a few of the northern species range inland to the western slope of the northern Rocky Mountains, and when plants of these species are obtained from the interior cold region they can be successfully grown in Massachusetts. Thus the Arboretum is able to keep in good condition the so-called Red Cedar of the northwest, *Thuja plicata*, or as it is more often called, *T. gigantea*. This is one of the noblest trees of which North America can boast and, although it will never grow to its largest size or become an important timber tree here, it is an ornamental tree in the Arboretum of considerable value and another witness to the importance of raising trees for cold climates from seeds gathered in the coldest parts of the area such trees naturally inhabit. It is possible, too, to grow here in the Arboretum the White Fir of the northwest coast, *Abies grandis*, and the coast Hemlock, *Tsuga heterophylla*, raised from seeds gathered on the Rocky Mountains of Idaho as these two trees also range far inland.

Colorado Conifers. The Douglas Spruce, *Pseudotsuga mucronata*, from Colorado is hardy in this climate and promises to be long-lived here although this tree from the northwest coast, where it grows in its greatest perfection, is not hardy in New England. The other conifers from the interior of the continent are hardy but are not of much promise as ornamental or timber trees for the eastern states. *Picea pungens*, the well known Colorado Blue Spruce, which is still largely propagated and sold by European and American nurserymen, will disappoint many planters of trees for its beauty is comparatively short-lived. This tree growing naturally in small groves by some of the streams of the southern Rocky Mountains becomes at the end of a few years thin and scrawny in habit with a few short branches on the upper part of the trunk, and is as ugly an object as a tree can well be. In cultivation the Blue Spruce for several years is compact in habit with wide-spreading branches in regular layers, but as the trees grow older

the branches at some distance from the ground grow more rapidly than those at the base of the trunk, and overshadow and gradually kill them. The oldest of these trees in cultivation were raised from seed collected by Dr. C. C. Parry in 1862 and are thus only fifty-three years old. One of these original trees is growing in the Arboretum on the southern slope of Bussey Hill where, although it is a pathetic object, it is kept to show the planters of this tree what they may expect of it long before it attains half its natural size. For many years there have been growing in the Arboretum what have been considered the finest specimens in cultivation of the second of the Colorado Spruces, *P. Engelmannii*; they formed narrow and compact pyramids with slender trunks furnished to the ground with short branches, and it was believed until recently that this tree which is so handsome on the high slopes of the Colorado mountains would prove to be the most desirable of all Spruce-trees for this climate. In the last two or three years, however, the lower branches of these trees have begun to die and, although the trees appear otherwise perfectly healthy and are still growing rapidly, their beauty as specimen trees is much injured.

Exotic Conifers. The conifers of western and northern Europe are generally hardy here but often short-lived. The Firs, Spruces and Pines of Japan are nearly all hardy in this climate, and although we have had a much shorter experience with the Chinese conifers than with those from Japan there is every hope that many of them will prove hardy in this climate and that some of them may be valuable ornamental trees.

The Cedar of Lebanon. The Cedar of Lebanon (*Cedrus Libani*) in the Arboretum shows the importance of careful selection of the seeds from which to raise trees for any particular climate. One of the Fir trees of Asia minor, *Abies cilicica*, has been growing for many years in New England where it has proved to be one of the best of all conifers of its class to cultivate here as an ornamental tree. With this Fir the Cedar of Lebanon grows in Asia Minor on the Anti-Taurus, far north of the Lebanon Range in Palestine and in a much colder climate. As the Palestine Cedar is not hardy here in New England the Arboretum had seeds of this tree collected on the Anti-Taurus with the view of attempting to introduce a hardy race of Cedars into New England. The seeds were sown here in the spring of 1902 and a large number of plants were raised. They all proved perfectly hardy, not one having suffered from drought or cold. Some, however, have been lost in attempts at transplanting, for no other tree here has proved so difficult to move. The average height of all these young Cedars in the Arboretum is now about thirteen feet. The tallest is twenty-one feet high and there is another specimen twenty feet high. It is doubtful if any other conifer can be grown in New England from seed to the height of twenty-one feet in thirteen years.

Torreya nucifera. Of the genus *Torreya*, which is related to the Yews, there are four species found in Florida, California, Japan and China. The Japanese species *T. nucifera* is well established in the

Arboretum, and one of the trees produced a few of its green olive-like fruits this year. In Japan this *Torreya* is a magnificent tree sometimes ninety feet high with a massive trunk and a dense crown of dark green shining leaves. It should be better known in this climate where it is apparently one of the rarest of exotic trees. The best specimen, probably, in the United States is in the Hunnewell Pinetum at Wellesley in this state. The peculiarity of this tree is that it does not begin to grow until July. In spite, however, of its short growing season it makes long annual shoots and increases rapidly in height. There is a group of this tree among the Laurels at the base of Hemlock Hill; there is a plant of *Torreya californica* among the exotic conifers near the top of Hemlock Hill where it has been kept alive for several years by careful winter protection. As an ornamental tree it has no value in this climate.

Chinese Cotoneasters. Several of the Chinese Cotoneasters in the collection of Chinese plants on the southern slope of Bussey Hill will be objects of much beauty for several weeks, for many of them retain their fruit until winter and their leaves are only now beginning to take on their brilliant autumn colors. The most beautiful of them perhaps now is the red-fruited *Cotoneaster Dielsiana*. *C. divaricata*, another red-fruited species, will be more beautiful in ten days' time when the leaves will be bright scarlet. *C. horizontalis* and its variety *perpusilla* with their dark green leaves and small bright red fruits, will not lose their autumn beauty much before Christmas. These two plants with their prostrate stems spreading into broad, compact mats are well suited for the rock garden or to train against low walls.

Hawthorns. Many of the American Hawthorns have now dropped their leaves. Two conspicuous exceptions are *Crataegus nitida* and *C. cordata*. The leaves of these two trees are turning red and set off to advantage their small, bright red fruits. There are large specimens of the former in the old Crataegus Collection on the bank between the Shrub Collection and the Parkway, and *C. cordata* can be seen on the Overlook and on Hickory Path near Centre Street. If a selection of twelve of the handsomest American Hawthorns for New England gardens were to be made these two should be among them.

Pyrus ovoidea. In a few days the leaves of this Chinese Pear-tree will turn bright scarlet. The late autumn coloring of the leaves of this tree is not surpassed by that of any other plant in the Arboretum, and it is well worth a place in any garden for this alone. It is interesting, too, because the leaves of no other Pear-tree turn to brilliant colors, and because the yellow juicy fruit, unlike that of other pears, is smaller at the apex than at the base. There is a good specimen of this tree in the Pear Collection on the left hand side of Forest Hills Road near the Forest Hills entrance.

Stewartia pseudocamellia. This is a small Japanese tree with erect growing branches, which produces in summer small, pure white, cup-shaped flowers and at this season of the year is interesting and attractive on account of the dark bronze purple color of the ripening leaves. There is a specimen in the Shrub Collection and another on Azalea Path.

The Bulletins of 1915 will be discontinued with this issue.

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